

**Amendment to the Claims:**

1. (Presently amended) A hydrogen storage composite material comprising:

a Mg-Ni based alloy; and

a coating of a catalytically active metal deposited directly on at least a portion of a surface of said Mg-Ni based alloy, said coating being less than about 200 angstroms thick;

said composite material capable of adsorbing at least 3 weight percent hydrogen and desorbing at least 1 weight percent hydrogen at 30 °C.